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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,997	07/14/2003	Mookandi Kanthimathi	AP35341 066123.0123	5960
21003	7590	08/11/2005	EXAMINER	
BAKER & BOTTS 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			KUMAR, PREETI	
			ART UNIT	PAPER NUMBER
			1751	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/618,997

Applicant(s)

KANTHIMATHI ET AL.

Examiner

Preeti Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/15/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Non-Final Rejection***

1. Claims 1-18 are pending.
2. Claims 1, 17 and 18 are independent.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 1, the phrase "essentially free from formaldehyde" renders the claim indefinite because it is unclear whether the composition can comprise some formaldehyde. See MPEP § 2173.05(d). Applicants specification recites that the composition is free from formaldehyde in paragraph [0052], thus it is indefinite as to what range of formaldehyde is encompassed by the language "essentially free of formaldehyde".

Claim 16 recites the limitation "wherein the synthetic organo-polymeric tanning agent obtained has chromium exhaustion" in claim 1. However, claim 1 does not recite that there is chromium in the tanning agent. Thus, there is insufficient antecedent basis for chromium exhaustion when the independent claim does not recite a chromium salt.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-15 and 17-18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ebel et al. (US 4,888,412) in view of Sargent et al. (US 5,629,376).

Ebel et al. teach a tanning agent for tanning in combination with aluminum tanning agents with an aromatic compound which has a phenolic hydroxyl group. See abstract. The condensation products may be obtained in powder form in a conventional manner, such as removal of the water by distillation or for example by spray drying. Specifically regarding the form of the tanning agent, Ebel et al. teach drying the tanning agent to obtain a powder form with sufficient specificity. See specifically lines 19-21 in col.3.

Preferred condensable compounds having a phenolic hydroxyl group are phenolsulfonic acid, sulfosalicylic acid, salicylic acid and 8-hydroxyquinoline, the phenolsulfonic and sulfosalicylic acids being usable in the form of the technical-grade mixtures in which they are produced. The course and the end of the reaction with the phenolic compounds can be monitored in a simple manner through thin layer

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chromatography. Examples of compounds having a condensable reactive nitrogen-containing group are carboxamides, sulfonamides, imides, ureas, amino and imino acids and also dialkylamines and dialkanolamines. Specific examples thereof are: acetamide, benzamide, formamide, sulfamic acid, succinimide, glycine, iminodiacetic acid, phenylglycine, urea, dicyandiamide, diethanolamine and diethylamine. The acid compounds may be cocondensed in the form of their alkali metal salts. Of the above, acetamide is particularly preferred. The condensation products to be used according to the invention are added to the pickling bath in a conventional manner. In the tanning process of the invention, the pH in the first stage is advantageously maintained at from 2 to 5, preferably at from 2.5 to 4.0. The pH can be set by adding for example sodium bicarbonate. See col.3, ln.20-65.

Ebel et al. illustrate in example 1, col.4, cattle pelt treated for 60 minutes in a pickling bath composed of 60 parts of water, 6 parts of sodium chloride, 0.6 part of formic acid and 0.6 part of sulfuric acid. At room temperature a solution of 25 parts of the 40% strength condensation product of Preparation Example 9, diluted at pH 4 with 75 parts water, is added to the pickling bath in two portions at a 90-minute interval, and drumming is continued for a further 90 minutes. Regarding step ii, Ebel et al. teach that 10 parts of a commercial aluminum chloride tanning agent (basicity 20%; Al.sub.2 O.sub.3 content 16-18%) are then added to the liquor and mixed in overnight. Regarding step iii, Ebel et al. teach sodium acetate is added making the liquor pH 2.9-3.2. The temperature is then raised to 40.degree. C., and the liquor is brought to pH 5.6 in the course of 6 hours by adding a total of 1.8 parts of magnesium oxide a little at a

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time. The leather is stored overnight. It is then fatliquored in 100 parts of fresh liquor, neutralized and finished. The leather has a shrinkage temperature of 94.degree. C., and is white and very soft. It is notable for excellent light fastness and heat resistance. See examples 1 and 9, col.4-6.

Ebel et al. do not teach multifunctional polymers as recited in claims 1 and 8. Also, Ebel et al. do not teach the specific amounts and temperatures at which the addition of the organic ligands, and reaction of aromatic compound with sulfuric acid takes place as recited in claims 1, 3-4, 7-10. Finally Ebel et al. do not teach the aeration and drying steps of claims 12-15.

Sargent et al. teach polyacrylic acid compositions for textile processing. Specifically, Sargent et al. teach a leather tanning agent comprising methacrylic acid. See example 1, col.15. Sargent et al. provide motivation to incorporate a methacrylic acid in a polymeric composition for use as acid dye levelers, soil resist agents and increase the hardness of the polymer film on the fiber. See col.7,ln.57-62.

It would have been obvious to one of ordinary skill art to modify the teachings of Ebel et al. with a methyacrylic acid as recited by the instant claims, because Sargent et al. suggest to one of ordinary skill in the art to modify a leather tanning agent with methacrylic acid for use as acid dye levelers, soil resist agents and/or to increase the hardness of the polymer film on the fiber.

Also, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to optimize the teaching of Ebel et al. and modify the specific amounts and temperatures at which the addition of the organic ligands, and reaction of

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aromatic compound with sulfuric acid, as recited by the instant claims because Ebel et al. suggest an analogous tanning agent comprising the claimed components and furthermore discovering an optimum amount and optimum temperature involves only routine skill in the art.

Finally, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to arrive at a process of aeration and drying as recited by the instant claims because Ebel et al. suggest obtaining a powder form in a conventional manner, such as removal of the water by distillation or for example by spray drying. See col.3, ln.19-21.

7. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lauton (US 5,256,317).

Lauton teaches a composition for the treatment of leather and furs, containing (A) an aromatic syntan and (B) a polymer of dicarboxylic acid and/or hydroxy compounds, a process for the production of wet-white leather and furs. See abstract.

Regarding the claimed aromatic compound, Lauton teaches aromatic synthetic tanning agents selected from those of groups (I) and (IV), (hydroxy)-naphthalene- and xylene sulfonic acid (as an industrial mixture) being preferred as the (hydroxy)arylsulfonic acid and ditolyl ether being preferred as the diaryl ether-sulfonic acid. See col.1, ln.20-55

Regarding the claimed multi-functional polymer, Lauton teaches polymers and copolymers of (meth)acrylic acid, maleic acid, itaconic acid and/or hydroxy compounds

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thereof which have a molecular weight of 1000 to 30,000, in particular 2000 to 15,000.

See col.1,ln.60-65.

Regarding the organic ligands, Lauton teaches that the composition can additionally contain formic, acetic, propionic, n-butyric, isobutyric, n-valeric, trimethylacetic, caproic, n-heptylic, caprylic, oxalic, malonic, succinic, glutaric, adipic, pimelic and suberic acid. See col.2,ln.5-15.

Lauton teaches that the composition can also contain as an optional component (D) a sequestering agent, such as the tetrasodium salt of ethylenediaminetetraacetic acid and neutral or acid sodium pyrophosphate, to act as a complexing agent. See col.15-20.

Lauton teaches in Procedure A in col.3, the preparation of phenolic tannin by the sulfonation of a 520 parts of naththalene with 560 parts of sulfuric acid at about 140C for several hours. In preparation examples 1-5, Lauton illustrates adding organic ligands such as formic acid and multifunctional polymers such as aqueous polyacrylic or methacrylic acid to phenolic tannin. In example 5, the product is dried by conventional methods. See col.4, ln.35.

Regarding the pH, Lauton teaches that the pH of the composition is brought to 3.5-3.8 with sodium carbonate. See col.4,ln.68.

Lauton does not teach heating the organic ligand and aromatic compound mixture at a temperature of 60-80C and heating the mixture with the multifunctional polymer at a temperature of 40-100C as recited by claim 1. Also Lauton does not teach



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the aeration and drying processes as claimed by claims 12-15. Also Lauton is silent as to the chromium exhaustion of the tanning agent as recited by claim 16.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Lauton by heating the organic ligand and aromatic compound mixture at a temperature of 60-80C and heating the mixture with the multifunctional polymer at a temperature of 40-100C as recited by the instant claims because Lauton suggests an analogous tanning agent comprising the claimed components and furthermore discovering optimum temperature involves only routine skill in the art.

Also it would have been obvious to one of ordinary skill in the art to arrive at the aeration and drying processes as claimed by the instant claims, because the teachings of Lauton suggest drying the tanning agent in general.

Finally, it would have been obvious to one of ordinary skill in the art to arrive at a tanning agent having 90-99% chromium exhaustion as recited by the instant claims, because Lauton suggests an analogous tanning agent having analogous components formed by the analogous process of obtaining a sulfonation mixture by reacting an aromatic naphthalene with sulfuric acid and then adding an organic ligand, such as formic acid, and multifunctional polymer such as methacrylic acid to result in a phenolic tanning agent which would be expected to have analogous properties as recited by the instant claims.

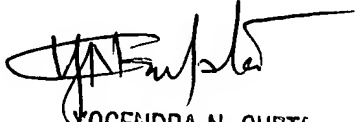
***Conclusion***

8. Remaining references cited but not relied upon are considered to be cumulative to or less pertinent than those relied upon or discussed above.
9. Applicant is reminded that any evidence to be presented in accordance with 37 CFR 1.131 or 1.132 should be submitted before final rejection in order to be considered timely.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Preeti Kumar whose telephone number is 571-272-1320. The examiner can normally be reached on M-F 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PK

  
YOGENDRA N. GUPTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

Preeti Kumar  
Examiner  
Art Unit 1751